

Appl. No. 10/064,601
Amdt. dated February 10, 2006
Reply to Office action of November 10, 2005

REMARKS/ARGUMENTS

1. Request for Continued Examination

The applicant respectfully requests continued examination of the above-indicated application as per 37 CFR 1.114.

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2. Amendments to the Specification

The informalities in paragraphs [44] and [45] have been corrected. The correction consisted of the addition of element number "50" to the "look-up table" reference. No new matter is introduced.

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3. Amendments to the Claims

Claims 12, 16, 17 and 19 are currently amended to better point out and claim the unique features of the present invention. Support for these amendments is found in paragraph [0026] through [0043] of the disclosure. The present disclosure uses the calculation logic to determine a target frequency using the disclosed formula to thereby force the VCO to generate the DPLL signal at the target frequency. As a result, the control circuit of the present disclosure offers a shorter seek time and quick stabilization by predicting the target frequency. No new matter is introduced.

Claims 20 and 21 are newly added. Support for these amendments is found in paragraphs [0027] through [0043] of the disclosure. According to either of the disclosed formulas, the track number information (i.e., the radius of the new track or the change in track number) is referenced. No new matter is introduced.

Consideration of these amendments is respectfully requested.

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4. Claim Rejections

Claim 17 is rejected under 35 U.S.C. 112, as failing to comply with the enablement requirement.

5 **Response:**

A feature of the present invention is to predict the target frequency of the target track and setting the VCO directly using the predicted target frequency, thereby offering a shorter seek time and a quicker stabilization. Therefore, when the predicted target frequency is obtained, other parameters, such as the RF equalizer signal and the DPD equalizer signal,
10 can be updated in advance during the seek mode, accordingly. To clearly point out this feature, applicant amends claim 17's limitation "referencing a lookup table stored in the controller according to the target frequency" to be worded as "referencing a lookup table stored in the controller according to the **predicted** target frequency." No new matter is introduced.

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Claims 12-16 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu (TW 494400) (see translation) in view of Hayashi et al. (US 6,285,640).

Response:

20 **Claims 12 & 19**

Applicant has amended claims 12 and 19. According to the translation given by Examiner, Xu teaches using a frequency counter (Fig. 2 element 17) to calculate the frequency of the oscillation clock pulse and output an oscillation frequency value, and using a frequency control unit (Fig. 2 element 19) to determine whether to change a set frequency value
25 depending on the oscillation frequency value and the set frequency value and output a control voltage to the voltage controlled oscillator. In addition, referring to Fig. 2, the

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frequency counter 17 is directly connected to the frequency divider (element 16), and the frequency counter only processes the oscillation clock pulse output from the frequency divider. Therefore, the frequency counter 17 only measures the "actual" frequency of the oscillation clock pulse (called DPLL signal in our invention) for a target track, and it does
5 not "predict" the target frequency of the target track.

Based on claims 3-4 and Fig. 3 in the translation, Xu teaches using the frequency control unit to tune the set frequency value until the a difference between the frequency of the oscillation clock pulse and the set frequency value falls in a frequency setting range.
10 Therefore, the frequency control unit follows a closed-loop control to fine-tune the set frequency value of the VCO by referencing the "actual" frequency of the oscillation clock pulse given by the frequency counter. In other words, the frequency control unit does not "predict" the target frequency of the target track.

15 Therefore, as to claims 12 & 19, applicant amends the claim's limitation "calculating a target frequency of the DPLL signal for a target track..." to be worded as "**predicting** a target frequency of the DPLL signal for a target track..." Since neither of Xu and Hayashi teaches this claimed feature, applicant believes that the 35 U.S.C. 103 rejections over claims 12 & 19 are overcome.

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Claims 13-17

Claims 13-17 are dependent on independent claim 12 and should be allowable if claim 12 is found allowable.

25 5. New Claims

New claims 20 and 21 are entered to further highlight the uniqueness and novelties

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associated with the present invention. Examiner stated that the DPLL signal of Xu will vary depending on the position of an optical pickup with respect to the center of the disc. However, as known in this art, the DPLL signal is generated by a PLL circuit, where the PLL circuit does not use any track number information as its input. In other words, Xu's
5 closed-loop formed by elements 16, 17, 19, 15 and 18 does not take track number information of the new track as its input. Moreover, the frequency control unit (i.e., element 19) only receives a value FV outputted from frequency counter (i.e., element 17). Therefore, Xu fails to teach or suggest the claimed feature: **referencing track number information to calculate a target frequency of the DPLL signal for a target track.**

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Regarding new independent claim 20, claim 20 is based on currently amended independent claim 12. The only different between claim 20 and claim 12 is found in the following limitation and highlighted in bold:

15 **referencing track number information to calculate a target frequency of the DPLL signal for a target track** when the optical disk drive is in a seek mode for track seeking;

Regarding new independent claim 21, claim 21 is based on currently amended independent claim 19. The only different between claim 21 and claim 19 is found in the following limitation and highlighted in bold:

20 **referencing track number information to calculate a target frequency of the DPLL signal for a target track** when the rotation speed of the spindle changes;

Applicant believes that newly entered claims 20 and 21 have been placed in condition for allowance.

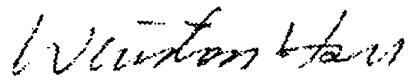
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Applicant respectfully requests that a timely Notice of Allowance be issued in this case.
Reconsideration of currently amended claims 12, 16, 17, and 19 is respectfully requested.
Consideration of newly entered claims 20 and 21 is respectfully requested.

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Sincerely yours,

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Date: 02/10/2006

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Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 13 hours behind the Taiwan time, i.e. 9 AM in D.C. = 10 PM in Taiwan.)